

SECTION II—CLAIMS

1.-30. (Canceled)

31. (Currently Amended) An evaporator, comprising

a base in ~~which a cavity is defined within a peripheral portion thereof and~~
configured to be thermally coupled to a semiconductor heat source, the base
including a cavity defined by a bottom and a peripheral portion around the
perimeter of the bottom;

a top cover secured to the peripheral portion of the base so as to define a
sealed volume in which a working fluid is vaporized;

a liquid inlet port to receive the working fluid in a liquid state, operatively
coupled to the sealed volume;

a vapor ~~liquid-inlet~~ outlet port from which the working fluid exits the
evaporator in a vapor state, operatively coupled to the sealed volume; ~~and~~

a plurality of structural elements extending between the bottom and the
top cover to prevent the sealed volume from collapsing when the evaporator is
operated such that evaporation of the working fluid occurs under sub-atmospheric
conditions; and

a wicking structure, disposed within a portion of the cavity, having a top
surface on which a meniscus of the working fluid is formed and a bottom surface
into which the working fluid is drawn through a capillary mechanism and a
pressure differential between a pressure of the working fluid in the meniscus and
a pressure of vaporized working fluid in the sealed volume.

- 32. (Canceled)
- 33. (Previously Presented) The evaporator of claim 31, wherein the wicking structure comprises a volume of a sintered material.
- 34. (Previously Presented) The evaporator of claim 32, wherein the sintered material comprises a sintered copper.
- 35. (Previously Presented) The evaporator of claim 31, wherein each of the base and the top cover comprise stamped metal components.